

at least one database for receiving and storing data about the structure wherein the stored data includes structural data about the structure;

at least one data source for providing data about the structure;

a communication network for transmitting data about the structure from the at least one data source to the database or to the user interface and for transmitting from the database to the user interface;

the user interface for presenting to the user data about the structure transmitted from the at least one database or the at least one data source.

2. (AMENDED) The computer system of claim 1, wherein the data source provides hydrological data, meteorological data, geological data or device data.

7. (AMENDED) The computer system of claim 1, wherein the data source provides structural data selected from the group consisting of structural detail, attributes, plans, inspection reports, maintenance memos and bridge history data.

8. (AMENDED) The computer system of claim 1, wherein the interface presents data from at least a first and a second data source.

10. (AMENDED) The computer system of claim 8, wherein the first data is a map showing a meteorological condition and the second data is a map showing the location of the structure.

14. (AMENDED) The computer system of claim 1 wherein the user interface comprises:

a general map of an area, showing hydraulic structures and hydrological features,
a second map showing detail such as the population density, detouring options for traveling public, emergency facilities, existing evacuation routes, and real-time location of safety personnel responding to the event, and

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~~a comparative chart of a threshold for the area that has caused a warning signal to be sent and a normal or expected data for the area.~~

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16. (AMENDED) The computer system of claim 1, further comprising a means for calculating risk probability which can be used to prioritize the deployment of emergency personnel in response to a threshold warning.

17. (AMENDED) The computer system of claim 16, wherein the means for calculating risk probability uses a weighted risk function to create a ranking of risk probability.

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19. (NEW) The computer system of claim 1, wherein the stored data includes hydrological data, meteorological data, structural data, environmental data, geographical data or device data.

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20. (NEW) A system for monitoring a hydraulic structure comprising:

Control
a computer in communication with

a data source which provides measurement data representative of at least one measurement of an environmental condition affecting the structure; and

a database which stores a predetermined threshold for the measurement data;

wherein the computer compares the measurement data with the predetermined threshold and communicates an alert when the measurement data exceeds the threshold.

21. (NEW) The system of claim 20, wherein the data source provides meteorological data, hydrological data, geological data, or device data.

22. (NEW) The system of claim 20, wherein the measurement data is radar data, tide data, snow data, warning data, water flow data, water stage data, ice data, soil data, vegetation data, seismic data, or scour data.

23. (NEW) The system of claim 20, wherein the alert is a page, a telephone call, a fax, or an email.

24. (NEW) The system of claim 20, where in the alert identifies the threshold, the measurement exceeding the threshold, and the location of the structure corresponding to the threshold.

25. (NEW) A method for monitoring a hydraulic structure comprising:

receiving, over a communications network, measurement data representing at least one measurement of an environmental condition affecting the structure;

storing a predetermined threshold for the measurement data in a database;

comparing the predetermined threshold with the measurement data; and

communicating an alert, via an interface, when the measurement data exceeds the threshold.

26. (NEW) The method of claim 25, wherein the received measurement data is meteorological data, hydrological data, geological data, or device data.

27. (NEW) The method of claim 25, wherein the received measurement data is radar data, tide data, snow data, warning data, water flow data, water stage data, ice data, soil data, vegetation data, seismic data, or scour data.

28. (NEW) The method of claim 25, wherein the alert is a page, a telephone call, a fax, or an email.

29. (NEW) The method of claim 25, where in the alert identifies the threshold, the measurement exceeding the threshold, and the location of the structure corresponding to the threshold.

30. (NEW) A system for prioritizing hydraulic structures comprising:

a computer in communication with

data sources which provide measurement data representing at least one measurement of an environmental condition associated with a plurality of hydraulic structures;

at least one database which stores predetermined thresholds corresponding to the measurement data, wherein a threshold has an associated priority and structure;

wherein the computer

compares measurement data from one or more data sources with corresponding thresholds to identify exceeded thresholds;

identifies structures corresponding to any exceeded thresholds; and

prioritizes the identified structures based on the priorities of the exceeded thresholds.

31. (NEW) The system of claim 30, wherein the data sources provide meteorological data, hydrological data, geological data, or device data.

32. (NEW) The system of claim 30, wherein the data is radar data, tide data, snow data, warning data, water flow data, water stage data, ice data, soil data, vegetation data, seismic data, or scour data.

33. (NEW) The system of claim 30, wherein the computer further provides an alert that identifies the exceeded threshold, the measurement that exceeds the threshold, the priority of the exceeded threshold and the location of the structure corresponding to the exceeded threshold.

34. (NEW) The system of claim 33, where in the alert is a page, a telephone call, a fax, or an email.

35. (NEW) A method for prioritizing hydraulic structures comprising:

receiving, over a communications network, measurement data representing at least one measurement of an environmental condition associated with a plurality of hydraulic structures;

storing predetermined thresholds corresponding to the measurement data in a database wherein a threshold has an associated priority and structure;

comparing measurement data from one or more data sources with corresponding thresholds to identify exceeded thresholds;

identifying structures corresponding to any exceeded thresholds; and

prioritizing the identified structures based on the priority of the exceeded thresholds.

36. (NEW) The method of claim 35, wherein the received measurement data is meteorological data, hydrological data, geological data, or device data.

37. (NEW) The method of claim 35, wherein the received measurement data is radar data, tide data, snow data, warning data, water flow data, water stage data, ice data, soil data, vegetation data, seismic data, or scour data.

38. (NEW) The method of claim 35, further comprising:

providing an alert that identifies the exceeded threshold, the measurement that exceeds the threshold, the priority of the exceeded threshold and the location of the structure corresponding to the exceeded threshold.

39. (NEW) The method of claim 38, where in the alert is a page, a telephone call, a fax, or an email.

REMARKS

As indicated in the specification, devices that could be placed at a particular hydraulic structure to monitor its condition existed in the prior art. See, e.g., p. 13, line 19 to p. 14, line 7 (describing a fathometer and other scour measuring devices). Devices like these are further described in U.S. Patent 4,855,966, for example. These gauges can be expensive not only to purchase, but also to install, monitor and maintain.